

Academy for the Gifted and Talented School 28
Green Infrastructure Information Sheet

<p>Location: 200 Presidential Boulevard Paterson, NJ 07522</p>	<p>Site Use: School</p>
<p>Ward: 1</p>	<p>Watershed Name: Lower Passaic River</p>
<p>Green Infrastructure Description: Bioretention system and enhanced tree pits</p>	<p>Targeted Pollutants: total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS) in surface runoff</p>
<p>Estimated Stormwater Captured and/or Treated Per Year: 491,700 gallons</p>	
<p>Implementation Date: 10/10/2017 Green Infrastructure System: 3,310 sq. ft. rain garden and nine 16 sq. ft. enhanced tree pits Drainage Area: 22,135 sq. ft. (blacktop playground runoff)</p>	
<p>Funding Sources: New Jersey Department of Environmental Protection 319(h)</p>	
<p>Partners/Stakeholders: Rutgers Cooperative Extension Water Resources Program, New Jersey Department of Environmental Protection, Great Swamp Watershed Association, Paterson Public Schools Board of Education and Facilities, School 4 Staff and Students, and Passaic County</p> <p>Appendix A: Site Photograph – Previous Condition</p> <p>Appendix B: Site Concept Plan</p> <p>Appendix C: Site Design Plan</p> <p>Appendix D: Site Photograph – Current Condition</p>	

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APPENDIX A:

Site Photograph – Previous Condition

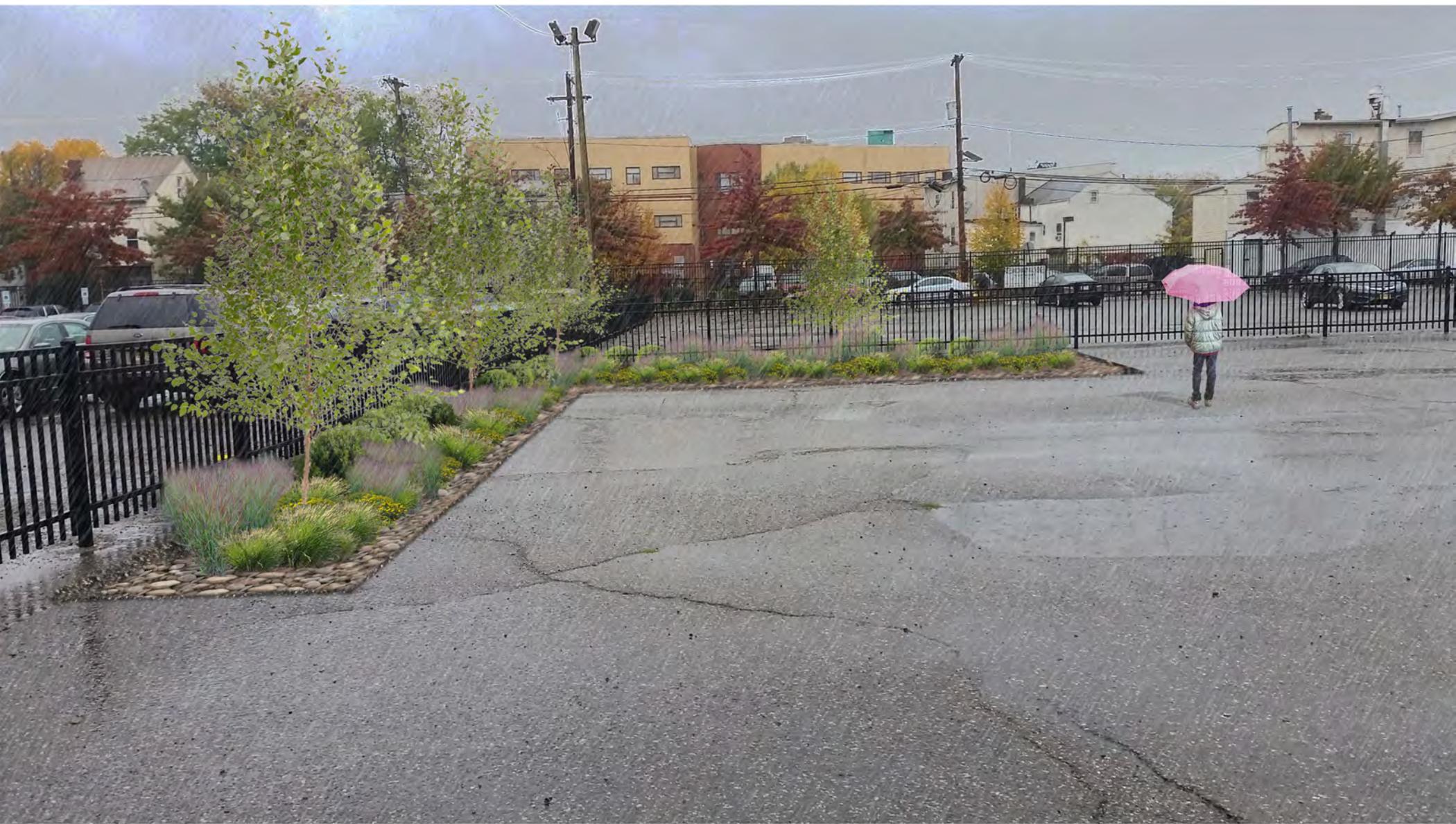
August 28, 2015



Academy for the Gifted and Talented School 28
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APPENDIX B:

Site Concept Plan



Academy for the Gifted and Talented School 28
Green Infrastructure Information Sheet

APPENDIX C:

Site Design Plan

PUBLIC SCHOOL 28

PATERSON GREEN INFRASTRUCTURE

200 PRESIDENTIAL BLVD, PATERSON PASSAIC COUNTY, NEW JERSEY

PROJECT DESCRIPTION:

A BIORETENTION SYSTEM (RAIN GARDEN) WILL BE IMPLEMENTED TO CAPTURE, TREAT, AND INFILTRATE THE STORMWATER RUNOFF FROM THE IMPERVIOUS AREA LOCATED BEHIND THE MAIN SCHOOL BUILDING. A TOTAL OF NINE TREE PITS WILL ALSO BE PLACED ALONG THE PERIMETER OF THE AREA. ALONG THE SIDEWALK TO THE SOUTHEAST OF THE SCHOOL, THIRTEEN ADDITIONAL TREE PITS WILL BE INSTALLED.

LOCATION MAP:



LEGEND:

- EXISTING FENCE
- EXISTING DRAINAGE AREA
- EXISTING TREELINE
- EXISTING TREE
- EXISTING CONTOURS
- EXISTING CONTOURS SURVEYED
- EXISTING SPOT ELEVATIONS
- SPOT ELEVATION CODES:
EP - EDGE OF PAVEMENT
GS - GROUND SHOT
UP - UTILITY POLE
MH - MANHOLE
- EXISTING CENTERLINE
- EXISTING BUILDING
- EXISTING UTILITY POLE
- EXISTING CATCH BASIN
- EDGE OF PAVEMENT
- PROPOSED GREEN INFRASTRUCTURE

LIST OF DRAWINGS:

SHEET NAME	TITLE
COVER	COVER SHEET
P-1	EXISTING CONDITIONS AND DEMOLITION PLAN
P-2	PROPOSED SITE PLAN
P-3	PROPOSED SITE PLAN 2
P-4	PLANTING PLAN
DT-1	RAIN GARDEN DETAILS
DT-2	TREE PIT DETAILS
DT-3	PLANTING AND LANDSCAPING DETAILS
DT-4	SOIL EROSION AND SEDIMENT CONTROL PLAN

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532

Christopher C. Obropta

DATE 04/17/17

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REVISIONS	No.	DATE	DESCRIPTION

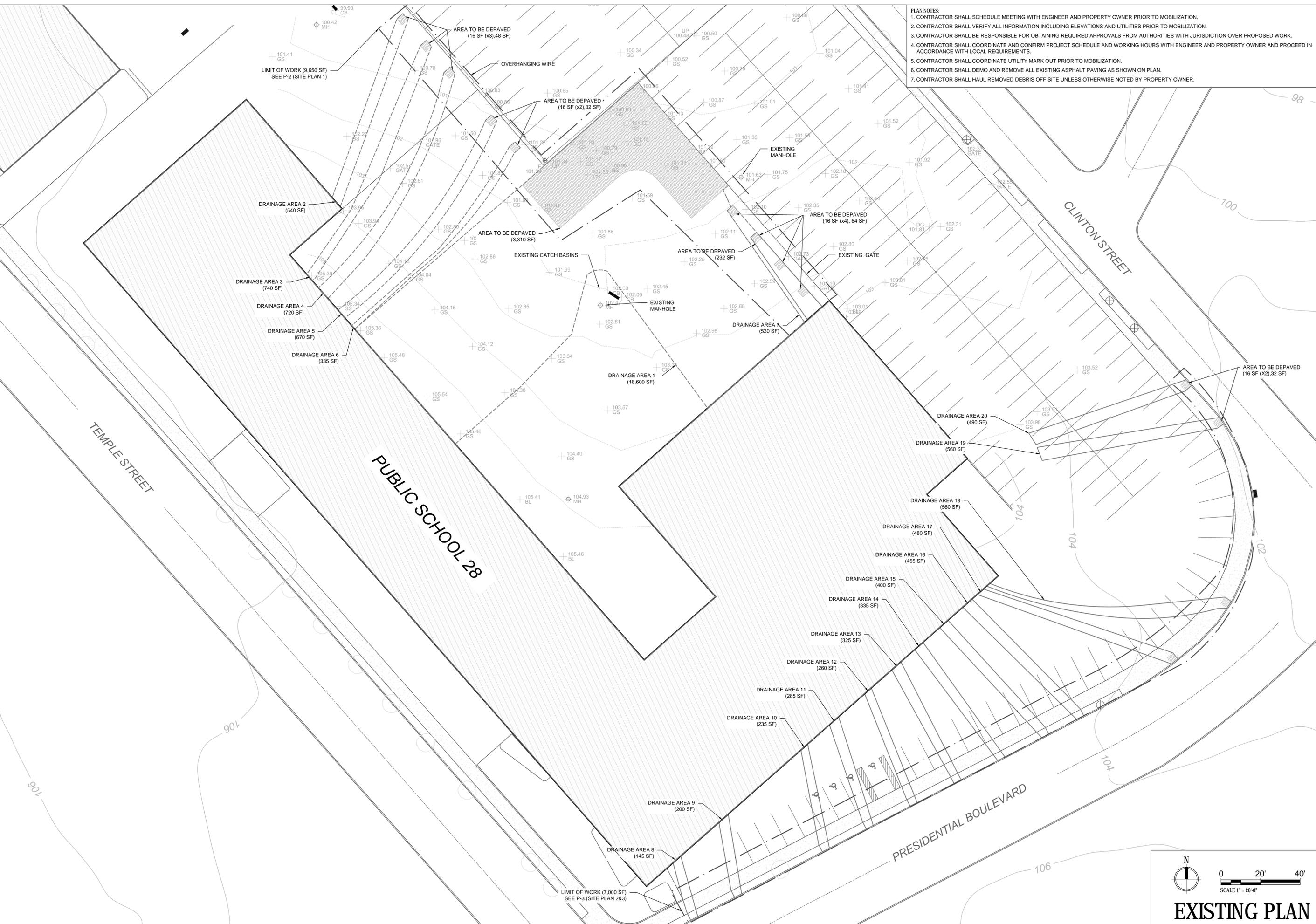
PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
200 PRESIDENTIAL BLVD, PATERSON
PASSAIC COUNTY, NJ

COVER SHEET



SHEET NAME
COVER

- PLAN NOTES:
1. CONTRACTOR SHALL SCHEDULE MEETING WITH ENGINEER AND PROPERTY OWNER PRIOR TO MOBILIZATION.
 2. CONTRACTOR SHALL VERIFY ALL INFORMATION INCLUDING ELEVATIONS AND UTILITIES PRIOR TO MOBILIZATION.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED APPROVALS FROM AUTHORITIES WITH JURISDICTION OVER PROPOSED WORK.
 4. CONTRACTOR SHALL COORDINATE AND CONFIRM PROJECT SCHEDULE AND WORKING HOURS WITH ENGINEER AND PROPERTY OWNER AND PROCEED IN ACCORDANCE WITH LOCAL REQUIREMENTS.
 5. CONTRACTOR SHALL COORDINATE UTILITY MARK OUT PRIOR TO MOBILIZATION.
 6. CONTRACTOR SHALL DEMO AND REMOVE ALL EXISTING ASPHALT PAVING AS SHOWN ON PLAN.
 7. CONTRACTOR SHALL HAUL REMOVED DEBRIS OFF SITE UNLESS OTHERWISE NOTED BY PROPERTY OWNER.



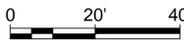
CHRISTOPHER C. OBROPTA, Ph.D., P.E.
 PROFESSIONAL ENGINEER - NJ LICENSE # 37532
 DATE 04/17/17
 CHECKED [Signature]
 APPROVED [Signature]
 DATE 04/17/17

REVISIONS	No.	DATE	DESCRIPTION
	1	04.17.2017	DRAINAGE AREAS ADJUSTED

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
 200 PRESIDENTIAL BLVD, PATERSON
 PASSAIC COUNTY, NJ
EXISTING CONDITIONS AND DEMOLITION PLAN



SHEET NAME
P-1

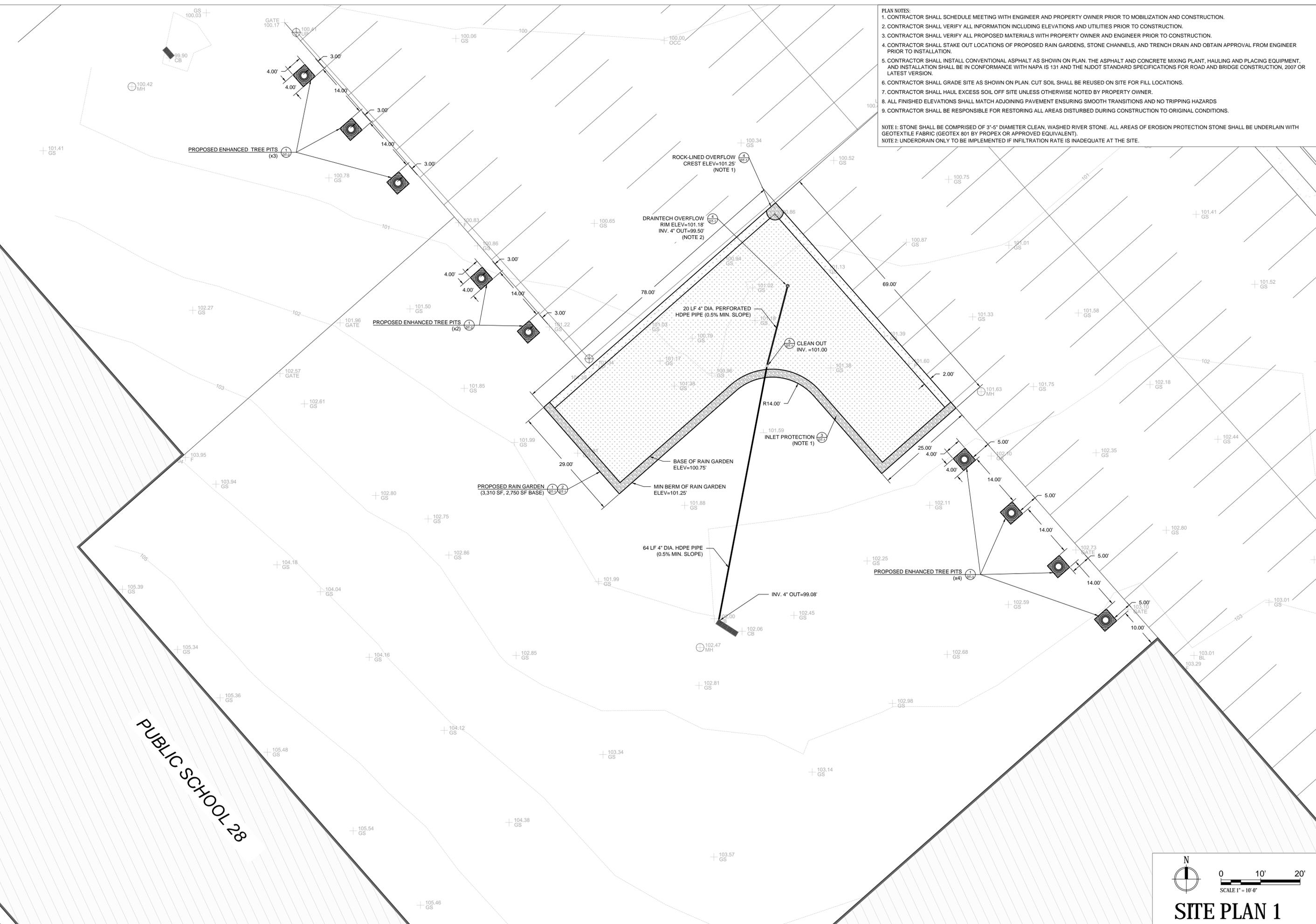


 SCALE 1" = 20'-0"
EXISTING PLAN

PLAN NOTES:

1. CONTRACTOR SHALL SCHEDULE MEETING WITH ENGINEER AND PROPERTY OWNER PRIOR TO MOBILIZATION AND CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY ALL INFORMATION INCLUDING ELEVATIONS AND UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL PROPOSED MATERIALS WITH PROPERTY OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL STAKE OUT LOCATIONS OF PROPOSED RAIN GARDENS, STONE CHANNELS, AND TRENCH DRAIN AND OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLATION.
5. CONTRACTOR SHALL INSTALL CONVENTIONAL ASPHALT AS SHOWN ON PLAN. THE ASPHALT AND CONCRETE MIXING PLANT, HAULING AND PLACING EQUIPMENT, AND INSTALLATION SHALL BE IN CONFORMANCE WITH NAPA IS 131 AND THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
6. CONTRACTOR SHALL GRADE SITE AS SHOWN ON PLAN. CUT SOIL SHALL BE REUSED ON SITE FOR FILL LOCATIONS.
7. CONTRACTOR SHALL HAUL EXCESS SOIL OFF SITE UNLESS OTHERWISE NOTED BY PROPERTY OWNER.
8. ALL FINISHED ELEVATIONS SHALL MATCH ADJOINING PAVEMENT ENSURING SMOOTH TRANSITIONS AND NO TRIPPING HAZARDS
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS.

NOTE 1: STONE SHALL BE COMPRISED OF 3"-5" DIAMETER CLEAN, WASHED RIVER STONE. ALL AREAS OF EROSION PROTECTION STONE SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC (GEOTEX 801 BY PROPEX OR APPROVED EQUIVALENT).

NOTE 2: UNDERDRAIN ONLY TO BE IMPLEMENTED IF INFILTRATION RATE IS INADEQUATE AT THE SITE.



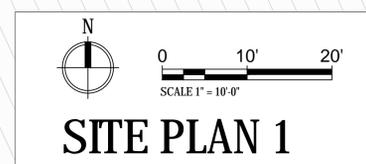
CHRISTOPHER C. OBROPTA, Ph.D., P.E.
 PROFESSIONAL ENGINEER - NJ LICENSE # 37532
 DATE 04/17/17

REVISIONS	No.	DATE	DESCRIPTION
	1	04.17.2017	RAIN GARDEN ELEVATIONS ADJUSTED

PUBLIC SCHOOL 28
 PATERSON GREEN INFRASTRUCTURE 319(h)
 200 PRESIDENTIAL BLVD, PATERSON
 PASSAIC COUNTY, NJ
 PROPOSED SITE PLAN



SHEET NAME
 P-2



SITE PLAN 1

PUBLIC SCHOOL 28

MATCH LINE
SITE PLAN 3

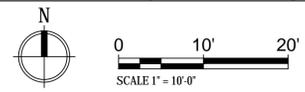
- PLAN NOTES:
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 5. CONTRACTOR SHALL INSTALL CONVENTIONAL ASPHALT AS SHOWN ON PLAN. THE ASPHALT AND CONCRETE MIXING PLANT, HAULING AND PLACING EQUIPMENT, AND INSTALLATION SHALL BE IN CONFORMANCE WITH NAPA IS 131 AND THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
 6. CONTRACTOR SHALL GRADE SITE AS SHOWN ON PLAN. CUT SOIL SHALL BE REUSED ON SITE FOR FILL LOCATIONS.
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 9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS.

NOTE 1: STONE SHALL BE COMPRISED OF 3"-5" DIAMETER CLEAN, WASHED RIVER STONE. ALL AREAS OF EROSION PROTECTION STONE SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC (GEOTEX 801 BY PROPEX OR APPROVED EQUIVALENT).

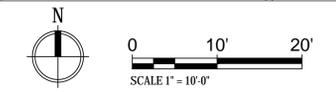
25' SPACING BETWEEN
TREES UNLESS SPECIFIED

PROPOSED ENHANCED TREE PITS
(x9)

PROPOSED ENHANCED TREE PITS
(x4)



SITE PLAN 2



SITE PLAN 3

REVISIONS

No.	DATE	DESCRIPTION

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
 200 PRESIDENTIAL BLVD, PATERSON
 PASSAIC COUNTY, NJ

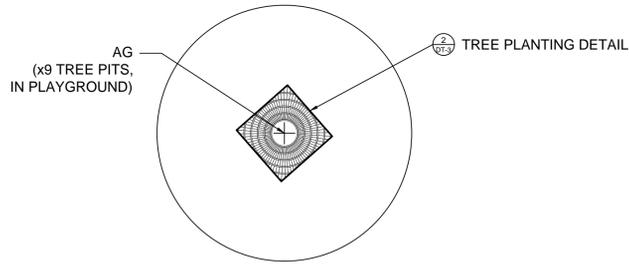
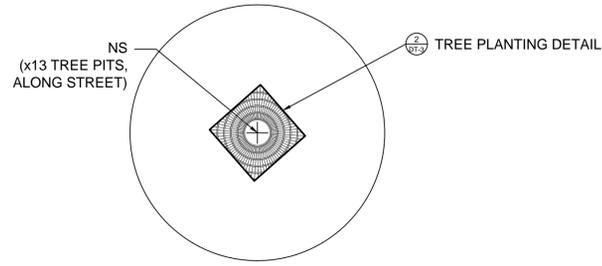


SHEET NAME
P-3

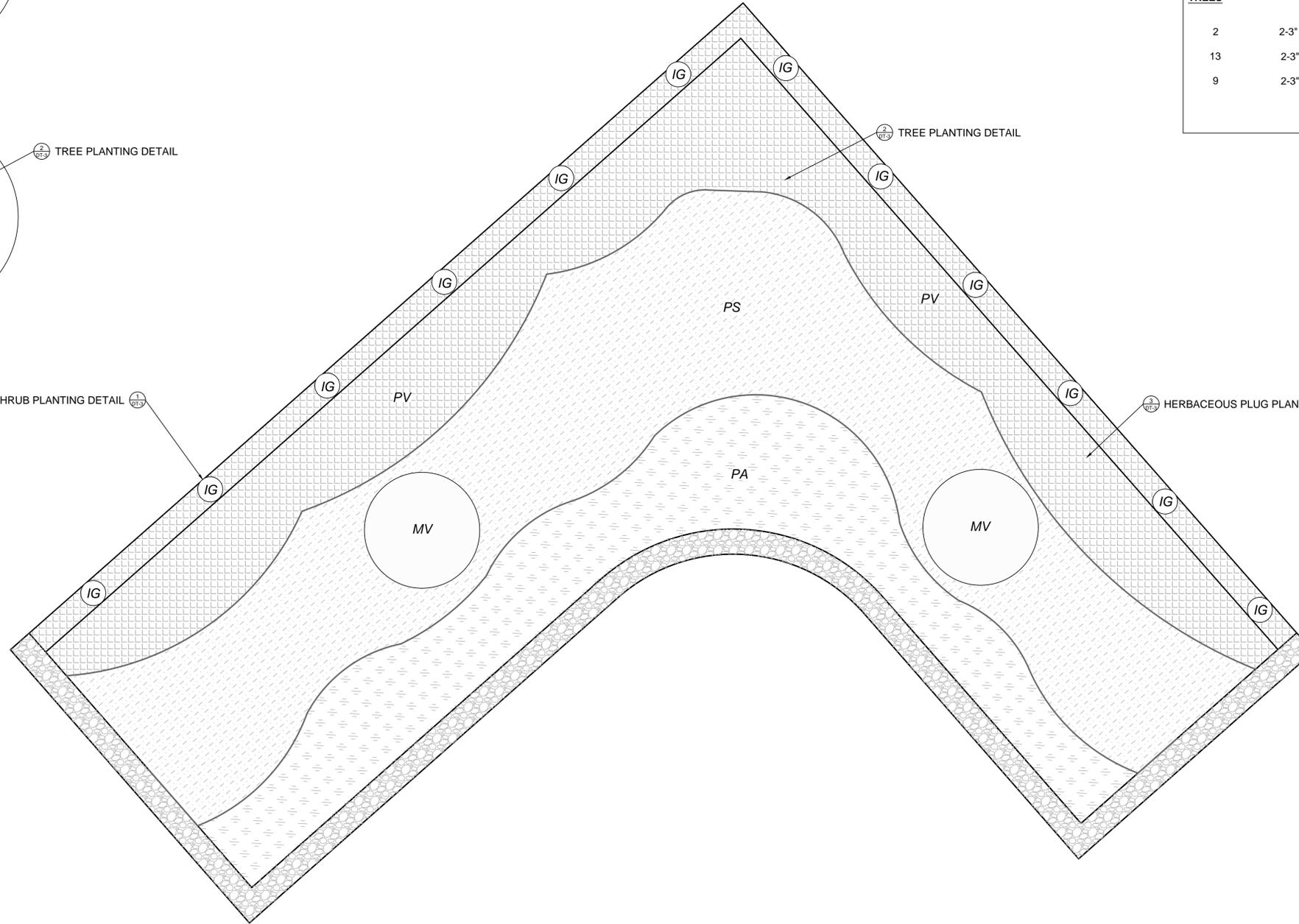
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 PROFESSIONAL ENGINEER - NJ LICENSE # 37532

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PROPOSED SITE PLAN



SHRUB PLANTING DETAIL



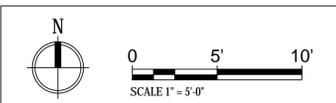
PLANT LIST			
QUANTITY	SIZE	PLANT SPECIES LIST BOTANICAL NAME	COMMON NAME
270	1 QUART	PV <i>Panicum virgatum</i>	SWITCHGRASS
155	1 QUART	PA <i>Pennisetum alopecuroides</i>	FOUNTAIN GRASS
355	1 QUART	PS <i>Phlox subulata</i>	CREeping PHLOX
SHRUBS			
12	#2 CONT.	IG <i>Ilex Glabra</i>	INKBERRY HOLLY (SHAMROCK)
TREES			
2	2-3" CAL. B&B	MV <i>Magnolia virginia</i>	SWEET BAY MAGNOLIA
13	2-3" CAL. B&B	NS <i>Nyssa sylvatica</i>	MARSHALL BLACKGUM
9	2-3" CAL. B&B	AG <i>Amelanchier x grandiflora</i>	AUTUMN BRILLIANCE SERVICEBERRY (SINGLE-STEM)

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PROFESSIONAL ENGINEER - NJ LICENSE # 37532

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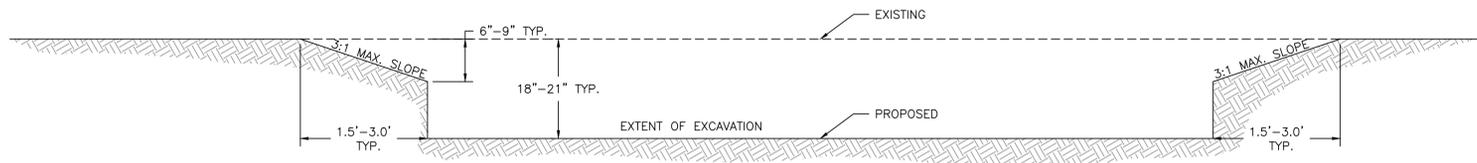
REVISIONS	No.	DATE	DESCRIPTION
	1	04.17.2017	PLANTING PLAN REVISED

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
200 PRESIDENTIAL BLVD, PATERSON
PASSAIC COUNTY, NJ
PLANTING PLAN

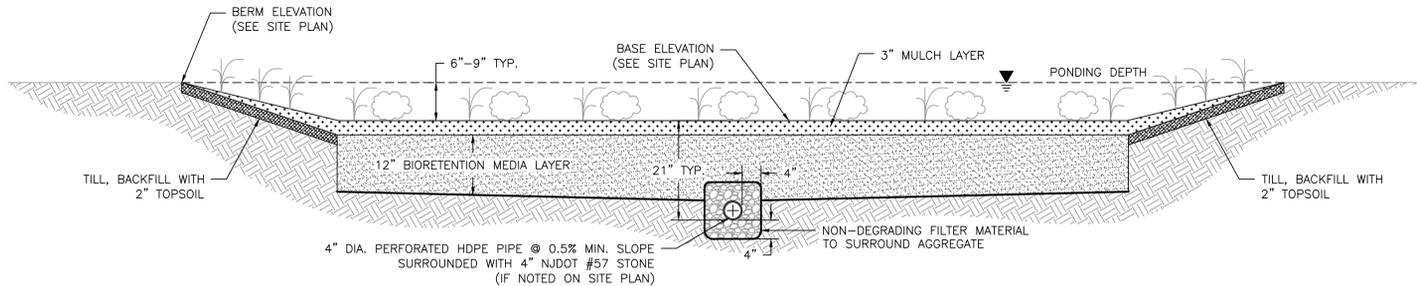


PLANTING PLAN

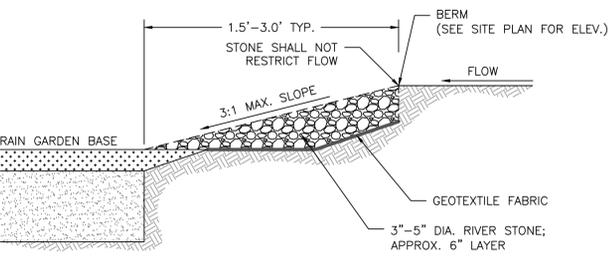
SHEET NAME
P-4



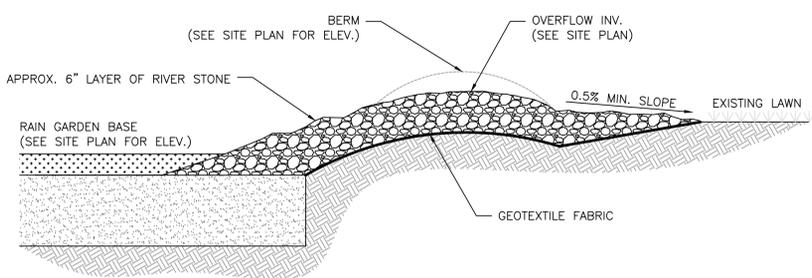
1 RAIN GARDEN EXCAVATION SECTION
DT-1 N.T.S.



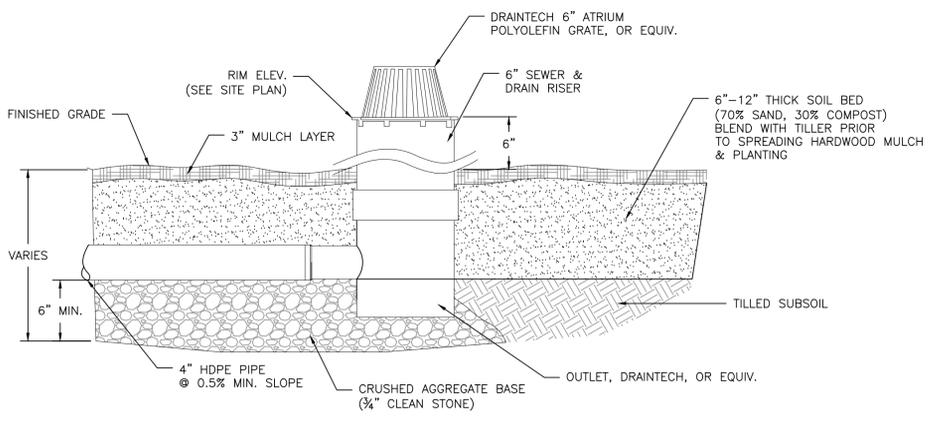
2 RAIN GARDEN CROSS-SECTION
DT-1 N.T.S.



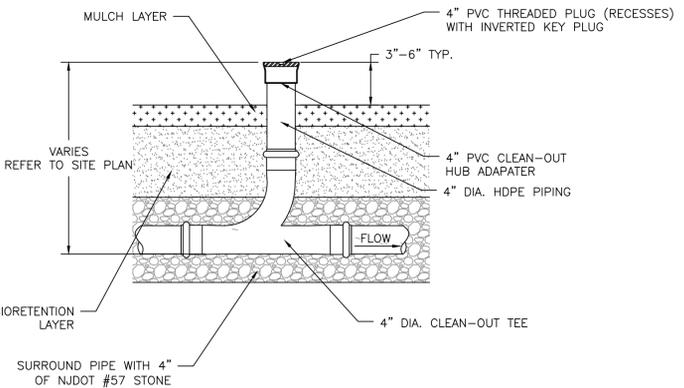
3 INLET PROTECTION CROSS SECTION DETAIL
DT-1 N.T.S.



4 ROCK-LINED OVERFLOW
DT-1 N.T.S.



5 DRAINTeCH OUTLET DETAIL
DT-1 N.T.S.



6 CLEAN OUT DETAIL
DT-1 N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE MULCHING TO INSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE MULCHED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL AVOID DISTURBING ALL EXISTING TREES. ANY DISTURBANCE TO TREES OR TREE ROOTS MUST BE COORDINATED WITH THE PROPERTY OWNER.
5. DIMENSIONS AND SHAPE WILL VARY, REFER TO SITE PLAN.
6. RIVER STONE PROTECTION DIMENSIONS ARE TYPICAL AND MAY VARY PER SITE. CONSULT THE ENGINEER AND SITE PLAN FOR DIMENSIONS ON A PER SITE BASIS.
7. RIVER STONE PROTECTION SHALL SLOPE TO RAIN GARDEN BASE.
8. REFER TO SITE PLAN TO DETERMINE OUTLET TYPE (ROCK-LINED OVERFLOW OR DRAINTeCH RISER).
9. REFER TO SITE PLAN FOR ALL ELEVATIONS AND INVERTS.
10. THE CONTRACTOR SHALL EXCAVATE 12" LOWER THAN THE BASE ELEVATION SHOWN ON THE SITE PLANS. THE SLOPES OF THE RAIN GARDEN SHALL BE AT A 3:1 MINIMUM.
11. THE SUBGRADE OF THE RAIN GARDEN SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO BACKFILLING WITH 12" OF BIORETENTION MEDIA.
12. THE CONTRACTOR SHALL INSTALL OVERFLOW IF SPECIFIED IN SITE PLANS PRIOR TO BACKFILLING WITH BIORETENTION MEDIA.
13. THE BIORETENTION LAYER SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO SPREADING MULCH AND PLANTING.
14. INLET AND OUTLET PROTECTION SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC.
15. INLETS AND OUTLETS SHALL NOT INHIBIT THE FLOW OF WATER FROM THE STREET. THE RIVER STONE SHALL BE PLACED BELOW THE BOTTOM OF THE PIPE.
16. THE CONTRACTOR SHALL TILL THE BERM SECTION AND BACKFILL WITH TOPSOIL.
17. ALL DISTURBED AREAS EXCLUSIVE OF RAIN GARDEN AND SLOPED BERM SHALL BE RESTORED TO ORIGINAL CONDITIONS BY CONTRACTOR.
18. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE PROJECT ENGINEER PRIOR TO ANY WORK ON SITE.
19. CONTRACTOR SHALL PERFORM REQUIRED TESTING TO DETERMINE SOIL PERMEABILITY AND SEASONAL HIGH WATER TABLE ELEVATION AT THE SITE. TESTING SHALL BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF POROUS ASPHALT, BIOSWALES, AND RAIN GARDENS. PROJECT ENGINEER SHALL BE PRESENT DURING TESTING AND SHALL BE INFORMED OF THE RESULTS.

SPECIFICATIONS:

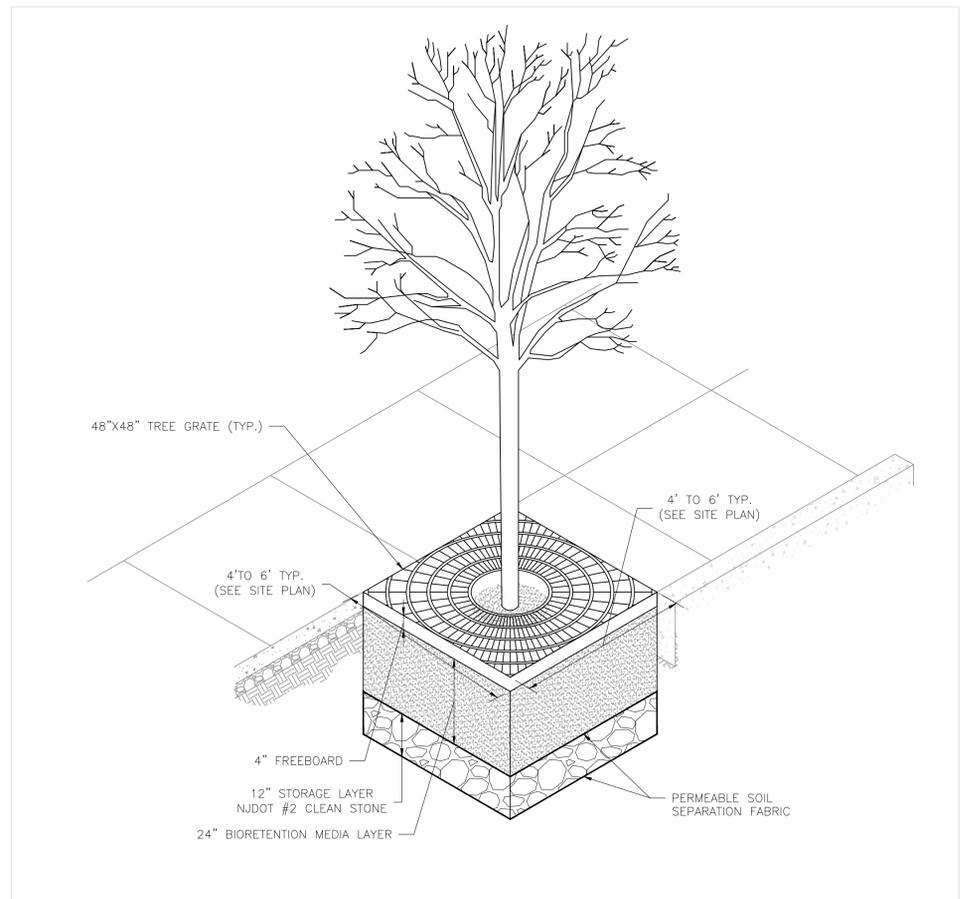
1. MAX COVER OVER TOP OF PIPE IS 4 FT. CONTACT ADS IF OTHERWISE GREATER.
2. THE APPROVAL OF MATERIALS AND MIXING OF SAND, COMPOST, AND SOIL SHALL BE DONE UNDER THE SUPERVISION OF THE PROJECT ENGINEER/LANDSCAPE ARCHITECT. BIORETENTION MEDIA SHALL CONSIST OF 70% SAND AND 30% COMPOST MIXTURE.
3. SAND SHALL AT THE MINIMUM CONFORM TO THE SIEVE ANALYSIS FOR CONCRETE AGGREGATE SAND (ASTM C-33). USGA TEE/GREEN SIEVE GRADATION MIX IS PREFERABLE WHERE AVAILABLE.
4. UNDERLYING SOILS SHALL BE TILLED/SCARIFIED PRIOR TO SPREADING/MIXING OF BIORETENTION MEDIA.
5. ALL BIORETENTION MEDIA SHALL BE PLACED FROM THE SIDES OF THE FACILITIES, AND IN NO EVENT SHALL ANY TRACKED OR WHEELED EQUIPMENT BE PERMITTED TO CROSS THE RAIN GARDEN.
6. RAIN GARDEN SHALL BE CONSTRUCTED TO DIMENSIONS INDICATED ON THE SITE PLAN.
7. 3-5 INCH DELAWARE RIVER STONE SHALL BE USED FOR STONE CHANNEL AND INLET/OUTLET PROTECTION.
8. NON-DYED, TRIPLE-SHREDDED HARDWOOD MULCH SHALL BE USED.
9. PLANTING OF RAIN GARDEN AND SLOPED BERM SHALL BE COMPLETED AS INDICATED ON THE SITE PLAN.
10. THE CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532
DATE 04/17/17
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CHECKED
DRAWN
DATE 04/17/17

REVISIONS	No.	DATE	DESCRIPTION
1	04.17.2017	SOIL PERMEABILITY TESTING NOTE ADDED	

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
200 PRESIDENTIAL BLVD, PATERSON
PASSAIC COUNTY, NJ
RAIN GARDEN DETAILS





1 ENHANCED TREE PIT
DT-2 N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE PLANTING TO INSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE PLANTED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL HAVE ALL UTILITIES MARKED BEFORE ANY EXCAVATION. IF ANY UTILITIES INTERFERE WITH THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
5. THE ENTIRE CONTINUOUS TREE PIT AND/OR ENHANCED TREE PIT SHALL BE EXCAVATED, THE CONTRACTOR SHALL DISPOSE OF ANY EXCESS MATERIALS.
4. THE CONTRACTOR SHALL AVOID OVER COMPACTING THE EXISTING MATERIALS IN ORDER TO AVOID POOR INFILTRATION OR SHORT LIFETIME OF PAVEMENT.
5. THE CONTRACTOR SHALL ESTABLISH ALL ELEVATIONS AND LINES AS SHOWN IN THE SITE PLAN FOR REVIEW BY THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.
6. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE IS CONSISTENT WITH LINE, GRADE, AND ELEVATIONS AS INDICATED IN THE SITE PLAN. ANY AREAS SHOWING EROSION OR POTENTIAL PONDING SHALL BE REGRADED BEFORE SUBBASE INSTALLATION.
7. IMMEDIATELY AFTER THE SUBGRADE IS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN SUBBASE CONSTRUCTION WHICH INCLUDES ALL MATERIALS BELOW THE PAVEMENT AND ABOVE THE EXISTING SUBGRADE.
8. THE CONTRACTOR SHALL PLACE GEOTEXTILE FABRIC IN CONFORMANCE WITH MANUFACTURER'S STANDARDS. ALL ADJACENT FABRIC SHALL BE OVERLAPPED BY AT LEAST 16 INCHES. THE FABRIC SHALL BE SECURED AT LEAST FOUR FEET OUTSIDE OF THE EXCAVATED BASE. THE ENTIRE PIT PERIMETER SHALL BE LINED WITH GEOTEXTILE FABRIC.
10. THE STORAGE LAYER (NJDOT #2) SHALL BE INSTALLED EVENLY OVER THE EXISTING SUBGRADE AND PERMEABLE FABRIC. STORAGE LAYER AGGREGATE SHALL BE INSTALLED TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION. PERMEABLE SOIL SEPARATION FABRIC SHALL BE INSTALLED ON TOP OF STORAGE LAYER PRIOR TO INSTALLING BIORETENTION MEDIA.
11. THE BIORETENTION MEDIA LAYER SHALL BE INSTALLED EVENLY OVER THE STORAGE LAYER AND FABRIC.
12. THE INFILTRATION RATE SHALL BE AT LEAST 5-30 FT/DAY OR 50 % OF THE HYDRAULIC CONDUCTIVITY (D2434).
14. AFTER SUBBASE AGGREGATE INSTALLATION THE GEOTEXTILE FABRIC SHALL BE FOLDED BACK ALONG ALL BED EDGES. THE FABRIC SHALL REMAIN SECURE UNTIL ADJACENT SOILS ESTABLISH VEGETATION. ANY NECESSARY MEASURES SHALL BE TAKEN TO PREVENT SEDIMENT FROM WASHING INTO BEDS.
15. CONCRETE SHALL BE INSTALLED IN CONFORMANCE WITH NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION. REFER TO SHEET DT-3 FOR PERVIOUS CONCRETE.

SPECIFICATIONS:

1. THE TREE GATES SHALL BE THE RETROFIT COLLECTION GRATES (R-9002) FROM NEENAH FOUNDRY. GRATES SHALL BE 48" ON EACH SIDE WITH A 16" DIAMETER EXPANDABLE TREE OPENING OR APPROVED ALTERNATIVE FOR CONTINUOUS TREE PIT. FOR ENHANCED TREE PIT THE GRATE SHALL BE 48" - 72" ON EACH SIDE WITH A 16" DIAMETER EXPANDABLE TREE OPENING OR APPROVED ALTERNATIVE. SEE SITE PLAN FOR GRATE DIMENSIONS FOR ENHANCED TREE PITS.
2. THE BIORETENTION LAYER SHALL BE COMPRISED OF 70% SAND AND 30% COMPOST MIXTURE.
3. THE COURSE STORAGE LAYER IN DETAIL 1 SHALL BE COMPRISED OF NJDOT #2 WASHED STONE. THE LAYER SHALL BE COMPACTED MULTIPLE TIMES. ALL OTHER STORAGE LAYERS SHALL BE COMPRISED OF NJDOT #57 WASHED STONE.
4. REFER TO DT-3 FOR PERVIOUS CONCRETE DETAILS.

CHRISTOPHER C. OBROPTA, Ph.D., P.E. PROFESSIONAL ENGINEER - NJ LICENSE # 37532 		DATE 04/17/17 DATE 04/17/17
DRAWN EJA	CHECKED MML	APPROVED CCO
REVISIONS	DESCRIPTION	
No. DATE	FREEBORD ADDED TO TREE PIT DETAIL	
1 04.17.2017		
PUBLIC SCHOOL 28 PATERSON GREEN INFRASTRUCTURE 319(h) 200 PRESIDENTIAL BLVD, PATERSON PASSAIC COUNTY, NJ TREE PIT DETAILS		
SHEET NAME DT-2		

OPEN LAWN AND TURF AREAS

- SEED ALL REMAINING PARK AREAS WITH TURF TYPE FALL FESCUE AND PERENNIAL RYEGRASS BLEND (LOFTS – SUMMER STRESS MIX II OR APPROVED EQUIVALENT). INSTALL AT A RATE OF 350 LBS. PER ACRE PER MANUFACTURERS SPECIFICATIONS.

TOPSOILING, SEEDING AND MULCHING NOTES

- ANY UNDISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 10 DAYS MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE REQUIRED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR SHALL BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE AND MULCH.
- DIVERSIONS, CHANNELS, SEDIMENTATION BASINS, SEDIMENT TRAPS, AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.
- GRADED AREAS SHALL BE TEMPORARILY SEEDED AND MULCHED IMMEDIATELY FOLLOWING EARTH MOVING PROCEDURES. TEMPORARY SEED SHALL BE ANNUAL RYE GRASS APPLIED AT A RATE OF 3 LBS. PER 1000 SQ. FT.
- AFTER SEEDING, HAY OR STRAW MULCH MUST BE APPLIED AT A RATE OF AT LEAST 3.0 TONS PER ACRE. MULCH SHALL BE ANCHORED BY EITHER CRIMPING WITH A COULTER IMPLEMENT, OR BY STAPLING BIODEGRADABLE NETTING TO THE SURFACE.
- SITE PREPARATION TO UPLAND AREAS: APPLY 1 TON OF AGRICULTURAL-GRADE LIMESTONE PER ACRE PLUS 10-20-10 FERTILIZER AT THE RATE OF 500 LB. PER ACRE. WORK IN WHERE POSSIBLE. SEEDING OF DISTURBED UPLAND AREAS (BEYOND LIMITS OF RIPARIAN ENHANCEMENT AREA) TO BE DONE USING MIX OF FINE FESCUE AT 35 LBS/ACRE (PURE LIVE SEED) PLUS PERENNIAL RYEGRASS AT 15 LBS/ACRE (PURE LIVE SEED).
- TOPSOIL SHALL BE A CLEAN FRIABLE LOAM WITH SUFFICIENT ORGANIC CONTENT (2.75%) TO PROMOTE PLANT VIGOR. AMENDMENTS SHALL BE ADDED AS NEEDED TO IMPROVE DEFICIENT SOILS. TOPSOIL SHALL BE RETURNED AT A LOOSE DEPTH OF FIVE INCHES TO ALLOW FOR SETTLEMENT.
- ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETE. UNLESS OTHERWISE INDICATED, PERMANENT SEEDING SHALL BE SEED MIXTURE SPECIFIED IN TABLE.
- SEE TABLES FOR SEED SPECIES MIXTURE AND APPLICATION RATES.
- SEED MIXES ARE AVAILABLE AT ERNST CONSERVATION SEEDS IN MEADVILLE, PA. WEBSITE: WWW.ERNSTSEED.COM OR PHONE: 1-800-873-3321.
- NATIVE SHRUBS AND HERBACEOUS PLUGS ARE AVAILABLE AT PINELANDS NURSERY AND SUPPLY, COLUMBUS NJ. WEBSITE: WWW.PINELANDSNURSERY.COM OR PHONE 1-800-667-2729

GENERAL LANDSCAPING NOTES

- ALL PLANT MATERIALS SHALL CONFIRM TO THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION)
- INSPECTION OF PLANTING BEDS – THE LANDSCAPE ARCHITECT SHALL INSPECT ALL PLANTING AREAS BEFORE ANY TOPSOILING OR PLANTING IS BEGUN TO INSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE LANDSCAPED SHOW EVIDENCE OF POOR DRAINAGE, THE LANDSCAPE ARCHITECT SHALL NOTIFY THE OWNER IMMEDIATELY FOR CORRECTIVE ACTION
- THE LANDSCAPE ARCHITECT SHALL APPROVE ALL PLANT MATERIAL AND STAKED PLANT LOCATIONS PRIOR TO INSTALLATION. ALL HERBACEOUS PLUG PLANTINGS SHALL BE A MINIMUM 3 INCH DEPTH. PLUGS SHALL BE PLANTED 1 FOOT O.C. AS INDICATED ON PLAN.
- ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE PLACED IN CONTINUOUS MULCHED BEDS 4" IN DEPTH. MULCH SHALL BE TRIPLE SHREDDED HARDWOOD.
- ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE AS SPECIFIED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND COMMENTS NOTED ON THE DRAWINGS.
- TOPSOIL SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR FOR PLANTING ACCORDING TO THE PLANS AND DETAILS.
- PREPARED TOPSOIL FOR BACKFILLING AROUND TREE BALLS SHALL BE A MIXTURE OF VOLUME OF THE FOLLOWING MATERIALS IN QUANTITIES SPECIFIED: 1/3 COMPOST, 2/3 TOPSOIL
- ALL HERBACEOUS PLUG PLANTINGS SHALL BE MINIMUM 3 INCH DEPTH. PLUGS SHALL BE PLANTED 1 FOOT O.C. AS INDICATED ON PLAN.

PLANTING SCHEDULE

PERENNIALS & GRASSES PLANT LIST

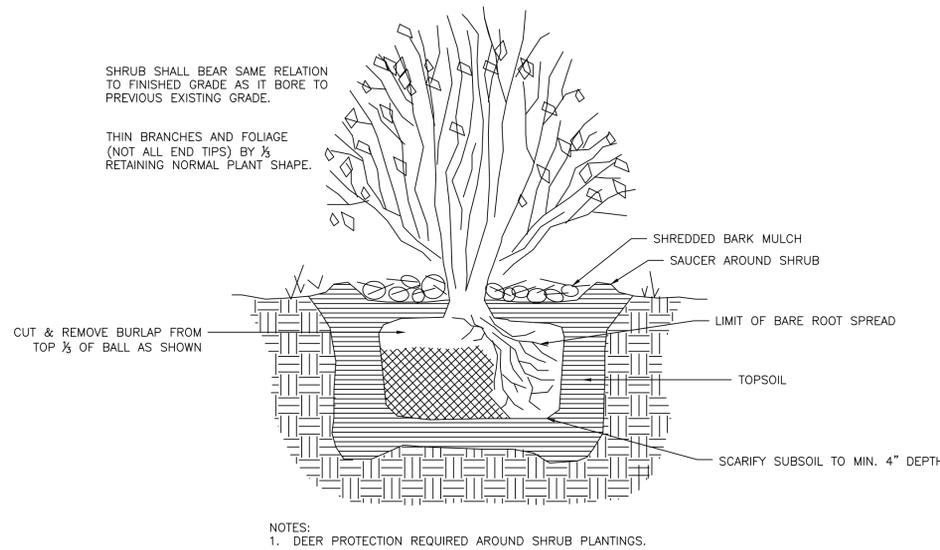
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE
270	PV	<i>Panicum Virgatum</i>	SWITCHGRASS	QUART
155	PA	<i>Pennisetum Alopecuroides</i>	FOUNTAIN GRASS	QUART
355	PS	<i>Phlox Subulata</i>	CREEPING PHLOX	QUART

SHRUB PLANT LIST

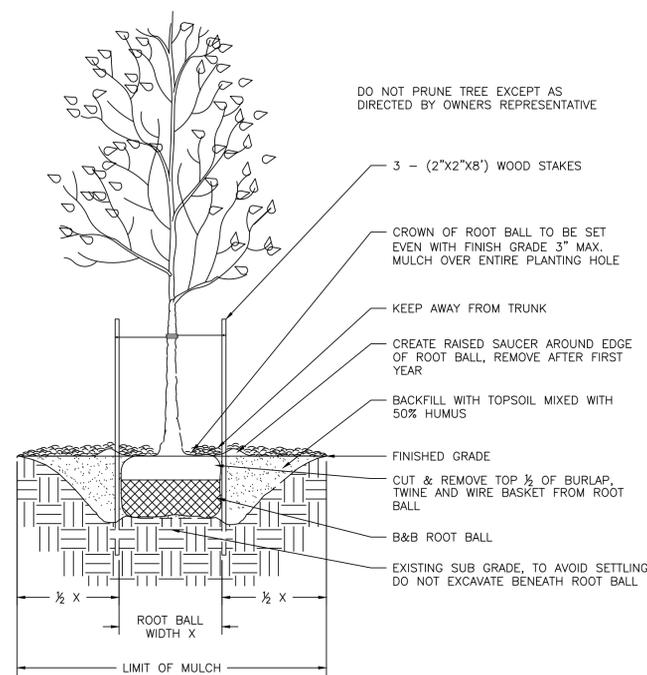
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE
12	IG	<i>Ilex Glabra</i>	SHAMROCK	3 GAL.

TREES PLANT LIST

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE
2	MV	<i>Magnolia virginiana</i>	SWEET BAY MAGNOLIA	2-3" CAL. BAGGED & BURLAPPED
13	NS	<i>Nyssa sylvatica</i>	MARSHALL BLACKGUM	2-3" CAL. BAGGED & BURLAPPED
9	AG	<i>Amelanchier x grandiflora</i>	AUTUMN BRILIANCE SERVICEBERRY (SINGLE-STEM)	2-3" CAL. BAGGED & BURLAPPED

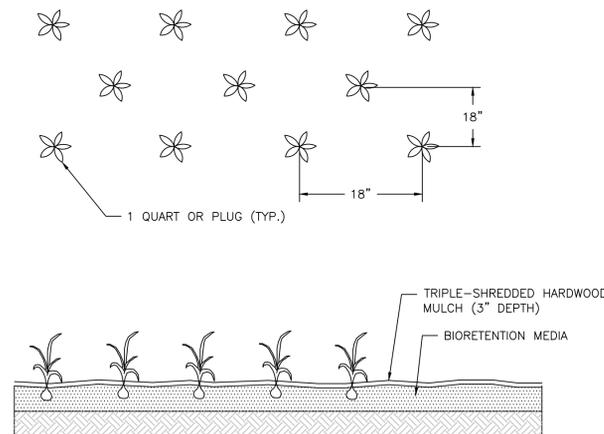


1 SHRUB PLANTING DETAIL
DT-3 N.T.S.



- NOTES:
1. DO NOT DAMAGE MAIN ROOTS OR ROOT BALL WHEN INSTALLING TREE STAKE.
2. WATER THOROUGHLY AFTER INSTALLATION.
3. REMOVE SAUCER AND STAKES TWO YEARS OR LESS AFTER INSTALLATION.
4. CONTRACTOR IS NOT TO USE TREE WRAP.

2 TREE PLANTING DETAIL
DT-3 N.T.S.



3 HERBACEOUS PLUG PLANTING DETAIL
DT-3 N.T.S.

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532

DATE 04/17/17
DATE 04/17/17
APPROVED CCO
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DRAWN EAJ

REVISIONS
No. 1
DATE 04.17.2017
DESCRIPTION PLANTING SCHEDULE REVISED

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
200 PRESIDENTIAL BLVD, PATERSON
PASSAIC COUNTY, NJ

PLANTING AND LANDSCAPE DETAILS



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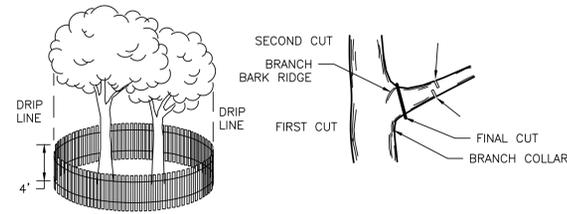
DT-3

SOIL EROSION AND SEDIMENT CONTROL NOTES

Hudson Essex Passaic Soil Conservation District

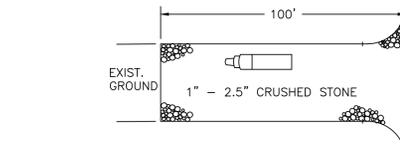
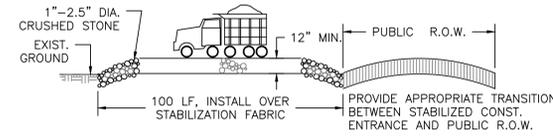
- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" 7TH EDITION LAST REVISED JANUARY 2014. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, WILL BE TEMPORARILY SEEDED AND HAY MULCHED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT DESTABILIZATION IS ESTABLISHED.
- SEEDING DATES: THE FOLLOWING SEEDING DATES ARE BEST RECOMMENDED TO ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPCSD: SPRING - 3/1-5/15 AND FALL - 8/15-10/1
- SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.
- ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
- MULCH MATERIALS SHALL BE UN-ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 70 TO 90 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
- ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
- THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT WILL BE NOTIFIED IN WRITING AT LEAST 48 HOURS PRIOR TO ANY SOIL DISTURBING ACTIVITIES. FAX - (862) 333-4507 OR EMAIL - INFORMATION@HEPCSD.ORG
- THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY, NJ - DCA OR ANY OTHER CONTROLLING AGENCY. CONTACT THE DISTRICT AT 862-333-4505 TO REQUEST A FINAL INSPECTION, GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.
- ALL SURFACES HAVING LAWNS OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE-SEEDING, SODDING OR PLANTING. A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED.
- ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.
- A CRUSHED STONE WHEEL CLEANING TRACKING-PAD IS TO BE INSTALLED AT ALL SITE EXITS USING 2 1/2" - 1" CRUSHED ANGULAR STONE (ASTM 2 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6". ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.
- STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
- THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNER'S INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

<http://hepsoilnj.org>
HEPCSD251SESCNOTESrev2014

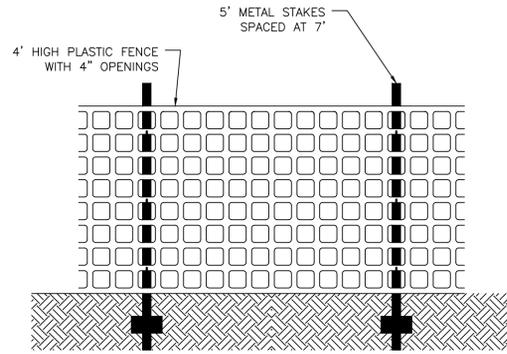


- NOTES:
- TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PROTECTED DURING AND AFTER CONSTRUCTION.
 - 4 FOOT HIGH SNOW FENCE SHALL BE PLACED AT THE DRIP LINE OF THE TREE AND ENIRCLE THE ENTIRE TREE.
 - ROOTS SHALL NOT BE CUT IN ANY AREA INSIDE THE DRIP LINE OF THE BRANCHES.
 - TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE FLUSH WITH TRUNK OR MAIN LIMB, GOOD GRADE OF TREE PAINT AND BE PERFORMED UNDER THE SUPERVISION OF A LICENSED NURSERYMAN.

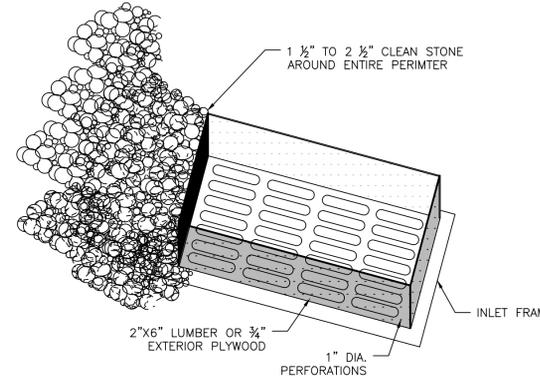
1 TREE PROTECTION AND LIMB REMOVAL
DT-4 N.T.S.



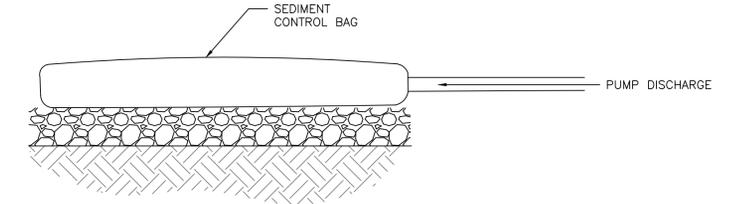
4 CONSTRUCTION ENTRANCE
DT-4 N.T.S.



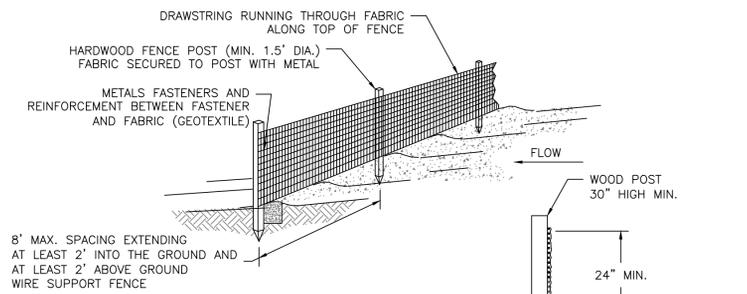
2 ORANGE BARRIER FENCE
DT-4 N.T.S.



5 INLET PROTECTION
DT-4 N.T.S.

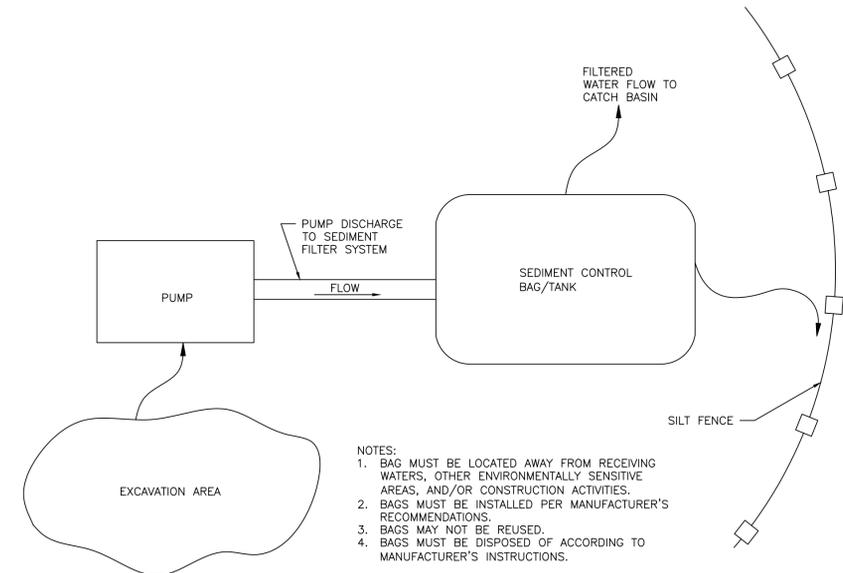


6 DEWATERING ELEVATION DETAIL
DT-4 N.T.S.



- NOTES:
- SILT FENCE SHALL BE PLACED ALONG SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 - INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. (9" MAX. RECOMMENDED STORAGE HEIGHT.
 - REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 - PLACE SILT FENCE AT LOCATIONS SHOWN ON THE SOIL EROSION PLAN.
 - THE SLOPE OF THE LAND FOR AT LEAST 30 FEET ADJACENT TO ANY SILT FENCE SHALL NOT EXCEED 5%.
 - SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE DIRECTED BY ENGINEER.

3 SILT FENCE
DT-4 N.T.S.



- NOTES:
- BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
 - BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 - BAGS MAY NOT BE REUSED.
 - BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

7 DEWATERING PLAN DETAIL
DT-4 N.T.S.

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532

DATE 04/17/17
DRAWN EAU
CHECKED MAL
APPROVED CCO

PUBLIC SCHOOL 28
PATERSON GREEN INFRASTRUCTURE 319(h)
200 PRESIDENTIAL BLVD, PATERSON
PASSAIC COUNTY, NJ



SHEET NAME
DT-4

Academy for the Gifted and Talented School 28
Green Infrastructure Information Sheet

APPENDIX D:

Site Photograph – Current Condition

October 10, 2017

